

**State of California**

**Continuity of Operations  
(COOP) and Continuity of  
Government (COG) Program**

**Workshop II: Identifying  
Essential Functions &  
Operations Vulnerabilities**



# Agenda

- COOP/COG Planning Objectives & Resources
- Overview of COOP/COG Plan Construction Methodology
- Essential Functions
- Critical Resources
- Risk Analysis
- Vulnerability Assessment



# **COOP/COG Planning Objectives**



## **COOP/COG Planning Objectives**

- To ensure the continuous performance of an organization's essential functions/operations during an emergency
- To reduce or mitigate disruptions to operations
- To mitigate damages by protecting essential systems, equipment, records, and other assets
- To achieve a timely and orderly recovery from an emergency
- To provide full resumption of services to customers as quickly and efficiently as possible
- To ensure that executive leadership and other key government positions are supported at all times
- To facilitate decision-making during an emergency



## **COOP/COG Plan Construction Tools**

- Planning Worksheets
- COOP/COG Plan Template and Guidance
- Facilitator's Guide
- Workshops
- Discussion Papers



## Key Terms

- Continuity of Operations (COOP)
- Continuity of Government (COG)
- Essential Functions
- Recovery Time Objectives (RTO)
- Risk Analysis
- Vulnerability Assessment



# **Overview of Plan Construction Methodology**



# Plan Construction Methodology





# Essential Functions



# Step 1: Identify Essential Functions



## What makes a Function “Essential?”

- It is “essential” by definition
- It ***must*** be continued under all circumstances
- It cannot suffer a significant interruption
- It may be required to be provided ***by law***
- It provides ***vital support*** to another department, agency or organization (with essential functions)



## Step-by-Step Approach to Identifying Essential Functions

1. Identify ***all*** agency functions
2. Determine which functions are essential
3. Prioritize the essential functions
4. Determine the **Recovery Time Objective (RTO)** for the Essential Function (the acceptable amount of “down time” for that function)



## Worksheet 1: Essential Functions

- The objective of Worksheet 1 is to identify all\* of the agency's functions, prioritize those functions, and then determine which of those functions are ***Essential***.
- “**Essential Functions**” are functions that enable the agency to provide vital services during an emergency.
- Although many functions are important, that does not necessarily make them essential for the purposes of COOP/COG planning.

*\*Some larger organizations may choose to simply start the planning process with functions they know to be essential.*



# Worksheet 1: Essential Functions

WORKSHEET 1: ESSENTIAL FUNCTIONS				
Column 1	Column 2	Column 3	Column 4	Column 5
Department/ Division/ Business Unit	Organization Function	Activities and Tasks	Is this function essential?	Assign level of priority for each essential function (A,B,C,D, E)



## **Why Capture Process Details for Essential Functions?**

- All processes that support an essential function may not be critical to the organization
- Some processes or steps could be suspended or “stood down” in an emergency
- The agency can streamline the delivery of its Essential Functions under emergency conditions
- Supplement 1 is optional but can be used as a tool to analyze the different steps or processes that underlie each Essential Function



# Supplement to Worksheet 1: Essential Functions Process Details

## WORKSHEET 1a: SUPPLEMENT TO WORKSHEET 1 - ESSENTIAL FUNCTIONS PROCESS DETAILS

Department/Division: \_\_\_\_\_  
 Function/Activity: \_\_\_\_\_  
 Recipients (Who is Served?): \_\_\_\_\_  
 Operations Schedule/Volume: \_\_\_\_\_

Column 1	Column 2	Column 3	Column 4	Column 5
Stage	Brief Name	Process Description Notes	Key Policy, Procedure or Performance Issues	COOP/COG Process Variation Notes





## **Determining if a Function is Essential**

- Worksheet 2 should be used as a tool to help determine whether a function is valuable and time critical to an organization by drilling down into the specifics of that function
- The questions in Worksheet 2 guide you through the analysis used to determine whether a function is essential
- Worksheet 2 can be useful for documenting the assessment of whether or not a function is essential
- Worksheet 2 can help capture both inter- and intra-department dependencies among functions



## Worksheet 2: Essential Functions Questionnaire

### Agency Function \_\_\_\_\_

1. Services this function provides:
2. In addition to the services listed in 1 above, would the loss of this function keep the agency from supplying any other services to the public and/or other government agencies:
3. Other agency functions (within this agency) that depend on this function:
4. Other agencies that depend on this function:
5. The loss of this function would have the following legal ramifications due to regulatory statutes, contractual agreements, or other laws: (Specify the area of exposure)
6. Indicate the peak time(s) of year for this function or its associated applications:  
Jan Feb Mar Apr May Jun  
Jul Aug Sept Oct Nov Dec N/A
7. Indicate the peak day(s) of the week for this function or its associated applications:  
Sun Mon Tue Wed Thurs Fri Sat  
N/A
8. Indicate the peak hour(s) of the day for this function or its associated applications: 1 2 3  
4 5 6 7 8 9 10 11 12 13 14 15 16  
17 18 19 20 21 22 23 24 N/A
9. Are there any other peak load or stress considerations?
10. Have you developed or established any backup procedures (manual or otherwise) to be employed to continue this function in the event that the associated applications are not available?
11. Specify any other factors that should be considered when evaluating the impact of the loss of the function, such as number of function recipients and criticality of the function to them:
12. Does an analysis of the responses to the above questions indicate that this function should be considered "essential" to the agency? If yes, indicate below when such label is appropriate:  
Always? During the following period of the year,  
During the following time of the month.  
During the following time of the week:  
Other time period. Specify:



# Prioritize Essential Functions

## Sample Classification:

- A: Emergency response functions (0-2 hours)
- B: High impact on public health or safety (up to 24 hours)
- C: High impact on public safety and health, or on department critical operations (up to 72 hours)
- D: Moderate impact on public safety, health or department critical operations (1-3 weeks)
- E: Low Impact (3 weeks or longer)

\*Each state agency must review its essential functions and adopt priority classifications that meet those needs.



## Recovery Time Objective

**“Recovery Time Objective”** (RTO) = the maximum amount of time allowed by the organization for the recovery of a business function or resource after a disaster occurs

- The shorter the RTO, the more costly the recovery solution is likely to be
- Different functions may have different RTOs



# Critical Resources



## Step 2: Identify Critical Resources



## What are Critical Resources?

- Facilities or Work Sites
- Communications Systems
- Key Personnel
- Vital Records and Databases
- Vital Systems and Equipment
- Key Vendors
- Supporting Government Agencies or Departments



## **Identifying Resource Requirements for Essential Functions**

- Worksheet 3 may be used to identify an organization's resource requirements
- When completed, Worksheet 3 provides the organization's COOP/COG needed to support each essential function
- The identification, protection, and ready availability of vital records, databases, and hardcopy documents required to support an essential function under the full spectrum of emergencies is a critical element of a successful COOP/COG Plan





# Worksheet 3: Resource Requirements for Essential Functions

WORKSHEET 3: RESOURCE REQUIREMENTS FOR ESSENTIAL FUNCTIONS						
Essential Function: _____						
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Activities & Tasks	Facilities or Worksites	Communication Systems	Personnel	Vital Records & Data-bases	Vital Systems & Equipment	Key Vendors, Critical Government Agencies or Departments



## **Column 1: Activities and Tasks**

- Use this Column to list each of the critical activities and tasks that are part of the Essential Function
- Critical activities and tasks were listed on Worksheet 1 (or the Supplement to Worksheet 1)



## Column 2: Facilities or Worksites

- What facilities or worksites serve as a physical location for the essential function?
- Which locations are required to ensure performance?



## **Column 3: Communications Systems**

- For the Essential Function, identify the type(s) of communications systems needed to support the function
- Include all forms of communications systems (land lines and cell phones, E-Mail, Internet, etc) that are being used for communications
- The ability to maintain continuous communication is critical to recovery of disrupted operations and essential to any government operation



## Column 4: Personnel

- For each Essential Function, identify the type of personnel (specialized skills, knowledge, or training) required to perform the function
- Other than executive and management positions, what is the level of staffing required to perform the Essential Function?



## **Column 5: Vital Records and Databases**

- For each Essential Function, identify the specific types of records and databases (both electronic and paper) used in the performance of the function.
- Vital records and databases include any documents, references, records, and information systems that are needed to support the organization's essential functions, regardless of the form of media in which they are created.



## **Column 6: Vital Systems and Equipment**

- For each Essential Function, identify the type(s) of systems and equipment needed to perform the function
- In determining the requirements of specialized systems and equipment, it is important to distinguish between equipment that is used occasionally for a specific (but highly important) task and equipment that is used routinely
- Disruption of the former may be, on average, not damaging, whereas disruption of the latter could be very damaging



## **Column 7: Key Vendors, Critical Government Agencies or Departments**

- For each Essential Function, identify all vendors, suppliers, or other state or local government agencies that provide key goods or services required to perform the function.
- Note whether these key vendors, critical agencies or department also have contingency plans for disruption of their operations.
- Do you have service level agreements or memorandums of understanding in place with the vendors, suppliers, or government agencies or departments in the event of a disruption?





## Summary of Worksheets 1-3

1. List all of your agency's functions and determine which of those functions must be performed under *all circumstances*
  - Identify these functions as "Essential Functions" on ***Worksheet 1***
  - Use ***Worksheet 2*** as a tool to determine how a function may be "essential"
  - Use ***Supplement to Worksheet 1*** to dissect complex functions and tasks
2. Determine the minimal resources required for you to continue to deliver these Essential Functions *under normal operating conditions*
  - List these resources on ***Worksheet 3***



# Risk Analysis



## **Step 3: Conduct a Risk Analysis & Vulnerability Assessment**



## Conducting a Risk Analysis

- A risk analysis is the process of collecting and evaluating information on risks and hazards that may impact agency operations.
- The purpose of the risk analysis is to develop a list of hazards that are of such significance that they are reasonably likely to cause devastating harm to the agency if they are not effectively controlled.
- The objective of this analysis is to identify vulnerabilities in operations and take steps to mitigate losses and/or develop recovery strategies.

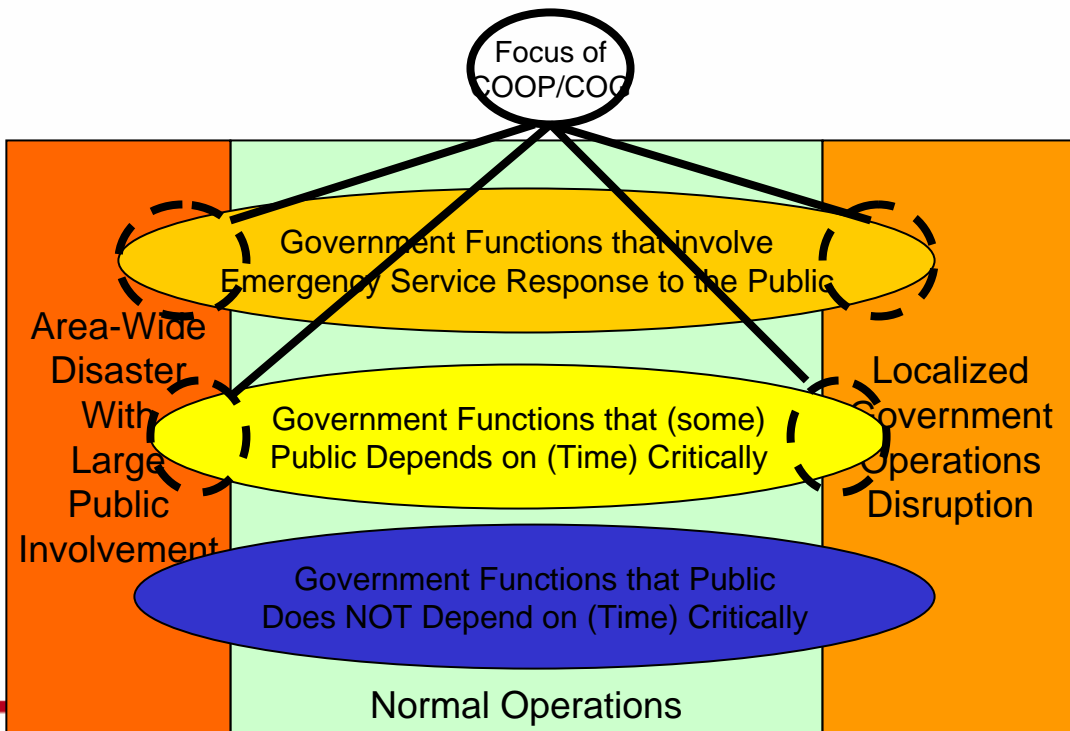


## Vulnerability Scope

- Emergency response actions by the government when a public disaster occurs
- Critical government functions that the public depends upon, but which are not emergency response functions
- COOP/COG focuses on disruptions to an organization's ***internal operations*** that occur either due to an area-wide public disaster or a disaster that is localized to the organization's facilities or operations.



## Vulnerability Scope



## **Steps used to Conduct a Risk Analysis**

1. List all of the threats that may potentially have an impact on the organization's ability to delivery its Essential Functions.
2. Determine the severity of the impact of the threat, and the probability of occurrence.
3. Assess whether the organization has implemented effective control measures or other procedures that mitigate the occurrence of loss or damage resulting from this event.
4. Determine if the likelihood of occurrence of this threat is substantial enough to be included in the organization's COOP/COG Plan.



# List All Threats Facing Your Organization

**Natural  
Hazards**

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**Technological  
Hazards**

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**Human-Caused  
Hazards**

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## Determine Severity of Impact and Probability of Occurrence

### Severity

- Catastrophic Event (4)
- Major Event (3)
- Moderate Event (2)
- Minor Event (1)

### Probability

- Frequent (4)
- Occasional (3)
- Uncommon (2)
- Remote (1)

### Impact of a Risk = Severity x Probability

- Risks with a score of 6 or higher are considered to cause a significant disruption to operations.



# Sample Threat Impact Assessment (Worksheet 4)

WORKSHEET 4: SPECIFIC THREAT IMPACT ASSESSMENT			
Column 1	Column 2	Column 3	Column 4
Event	Severity	Probability	Score
Earthquake (minor)	3	4	12
Earthquake (major)	4	2	8
Fire	4	2	8
Bomb	4	1	4
Tsunami	1	1	1



## Disruption Scenario Planning

- Scenarios can be used to sketch out alternative possible futures that should be considered in the COOP/COG planning process.
- Scenarios are narratives of how “things might unfold” in response to a particular event or action.
- Scenarios should be used to create “storylines” that are logical, plausible and compelling.
- Disruption scenarios are the basis for examining whether an organization can quickly recover its Essential Functions (operations resiliency):
  - If key resources are not available, what alternatives exist?
  - If alternatives do not exist, what should be put in place?



## **Types of Disaster Scenarios**

- Facility unavailable, local event
- Facility unavailable, region-wide event
- Loss of vital records or key databases
- Loss of a communications system
- Loss of specialized equipment or computer systems
- Loss of key vendor services (or other agency services)
- Loss of personnel



# Vulnerability Assessment



# Preliminary Vulnerability Assessment (Worksheet 5)

WORKSHEET 5: PRELIMINARY VULNERABILITY ASSESSMENT							
	Impact of Lost Resource on Essential Function						
Column 1	Column 2		Column 3	Column 4	Column 5	Column 6	Column 7
Description of Essential Function	Facilities or Worksites		Communications Systems	Personnel	Vital Records & Databases	Vital Systems & Equipment	Key Vendors, Critical Government Agencies or Departments
	Local	Area - Wide					
Payroll	2	4	4	4	4	2	1
Billing	1	3	2	1	4	4	4

4 = Major, 3 = Significant, 2 = Moderate, 1 = Minimal, 0 = None or N/A



# Outcome of the Vulnerability Assessment

- The results of the Vulnerability Assessment should provide the organization with information on how recovery strategies and resume normal operations
- Resumption and Recovery strategies should address the most serious disaster scenarios for a particular organization
- Disaster Scenarios can be based on:
  - Natural Hazards
  - Technology Failures
  - Man Made “Pro-Active” Events - Threats
- Resumption and Recovery Strategies should be crafted to meet the needs of the individual organization, and can vary significantly based on the outcome of the Risk Assessment for each agency, department or division



## **Review of Workshop**

- Identify Essential Functions
- Determine Critical Resources
- Identify Threats Most Likely to Occur
- Determine the Impact of a Particular Resource Outage on the Ability to Perform an Essential Function





# Questions?

